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September 13, 2004

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

To Whom It May Concern:

This is to confirm that this document is publicly available.

A handwritten signature in black ink, appearing to read "Trish Crosser".

Trish Crosser  
Assistant to Director of Quality  
Fisher Controls Int'l LLC.  
Marshalltown IA



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**FIN 2004-02**

**Fisher Controls**



Fisher Controls International LLC  
205 South Center Street  
Marshalltown, IA 50158

**Fisher Information Notice: FIN 2004-02**

June 23, 2004

**Subject:**

Fisher Pneumatic Instrument Relays with Nitrile Elastomer Diaphragms

**Equipment Affected By This Information Notice:**

*ALL FISHER TYPE 3582 POSITIONERS, TYPE 3583 POSITION TRANSMITTERS, TYPE 3590 POSITIONERS, TYPE 4190 SERIES INDICATING CONTROLLERS, REPLACEMENT TYPE 83L, 83H AND 83U PNEUMATIC RELAYS SOLD TO THE NUCLEAR INDUSTRY THAT UTILIZE NITRILE DIAPHRAGMS.*

**Purpose:**

The purpose of this Fisher Information Notice (FIN) is to alert customers to the possibility of a situation which may affect the customer's application of this equipment whether or not it is a safety-related application of the equipment.

We are informing our customers of record of this circumstance in accordance with Section 21.21 (b) of 10CFR21 because Fisher Controls International LLC is not aware of each and every application or system design and cannot determine whether an anomaly could cause a defect or "failure to comply," relating to a substantial safety hazard.

Receipt of this notice does not necessarily mean that the recipient has been shipped any of the subject equipment. It is expected that the recipients of this notice will review the information for applicability to their facilities, and if required, take the appropriate action as described in the section at the end of this notice.

**Applicability:**

This notice applies only to the subject equipment supplied by Fisher Controls International LLC that meet any of the following criteria:

- Fisher Type 3582 Positioners with nitrile elastomer diaphragms, shipped since February 1999.
- Fisher Type 3583 Position Transmitters with nitrile elastomer diaphragms, shipped since February 1999.
- Fisher Type 3590 Positioners with nitrile elastomer diaphragms, shipped since February 1999.
- All Fisher Type 4190 Series Indicating Controllers (4194A, B and C Series; 4194HA, HB and HC Series; 4194HS Series; 4194S Series; 4195S Series; 4196A, B, C and S Series) with nitrile elastomer diaphragms, shipped since February 1999.
- All Fisher Types 83L (part of the Type 3582 Positioner and the Type 3583 Position Transmitter), 83H (part of the Type 3590 Positioner), and 83U (part of the Type 4190 Series Indicating Controllers) pneumatic relays with nitrile elastomer diaphragms, shipped as replacement relays for the instruments listed above, since February 1999.

**Note: The Type 3582NS nuclear service version Positioners are not affected by this information notice because they do not use nitrile elastomer diaphragms.**

**For the same reason any high temperature version of any of the instruments listed above is not affected by this notice because the diaphragms in these relays use Fluorelastomer (FKM), polyacrylic (ACM), epichlorohydrin (ECO) materials.**

Description of Possible Instrument Relay Problem:

The elastomers used in the diaphragms for the Types 83L, 83H and 83U Relays are designed to provide controlled physical movement, caused by pressure changes acting on the pneumatic relay diaphragms. In order to maintain pressure and still be responsive to small pressure fluctuations, the thickness of the relay diaphragm material is a critical characteristic. If the material is too thick the performance of the relay may be degraded.

Discussion:

In February 1999, Fisher increased the thickness of the nitrile diaphragms in the Type 83 Series relays as part of a material consolidation program

Recently, Fisher was notified that the installed performance of several Type 3582 Positioners did not appear to be acceptable because of reported "sluggish" relay behavior. The most notable characteristic of this behavior is an increase in time required to exhaust the actuator diaphragm case (stroke time).

To correct this problem, Fisher has reduced the thickness of the nitrile diaphragm to its previous, thinner dimensions. Table 1 provides a conversion list for replacement part numbers.

One can determine which type of nitrile diaphragm is present in a given relay by looking at the alignment tabs (See Figure 1) on the diaphragms that extend outside the relay segments:

- The thicker diaphragms are identified by red dots, or red (or pink) wavy lines, or light blue wavy lines.
- The thinner diaphragms are identified by white dots or white wavy lines. This is the same marking used for the pre-1999 diaphragms.

Action Required:

- No action is required for plants that do not have the subject equipment.
- No action is required if the particular relay has not exhibited the behavior described above.
- Use the list of part numbers to determine what inventory is located at the plant site.
- If your plant has experienced problems regarding expected performance from these instruments, or if you discover that you have relays with the thicker diaphragms installed, contact your Fisher Local Business Partner regarding appropriate corrective action.

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### 10CFR21 Implications:

The recipient of this notice is requested to review the information contained in this notice to determine its applicability to his/her facility.

If no equipment meeting the applicability requirements listed above have been provided by Fisher Controls International LLC, then no further action is required.

If equipment meeting the applicability requirements listed above have been supplied and used in a safety-related application, Fisher Controls requests that the recipient of this notice review it and take appropriate action in accordance with 10CFR21.

**If there are any questions related to specific valve serial numbers, please contact your local Fisher Controls Representative.**

If there are any technical questions or concerns, please contact:

George Baitinger  
Manager, Quality Assurance, Marshalltown Operations  
Fisher Controls International LLC  
205 South Center Street  
Marshalltown, IA 50158  
Fax: (641) 754-2854

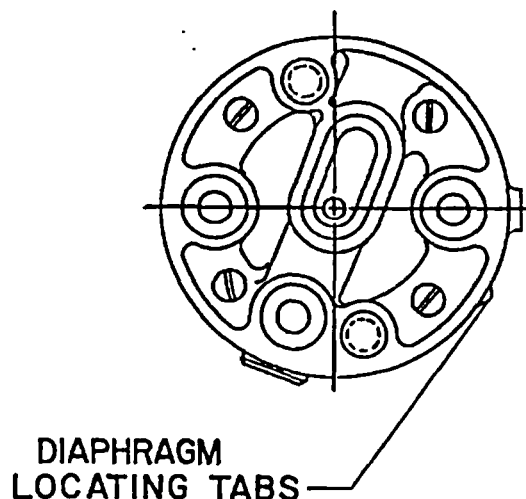


Figure 1. Diaphragm Locating Tabs

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Table 1. Replacement Part Numbers

Part Description	Old Part Number	New Part Number
83L Pneumatic Relay Ass'y	32B0255X022	None*
83L Pneumatic Relay Ass'y	32B0255X0A2	R3580XRS012
83L Pneumatic Relay Ass'y	32B0255X0B2	R3580XRS022
83L Pneumatic Relay Ass'y	32B0255X0D2	None*
83L Pneumatic Relay Ass'y	32B0255X0F2	32B0255X082
83L Pneumatic Relay Ass'y	32B0255X0G2	None*
83L Pneumatic Relay Ass'y	BU9005X0012	None*
83L Pneumatic Relay Ass'y	BU9005X0022	None*
83L Pneumatic Relay Ass'y	BU9005X00E2	R3580XRS012
83L Pneumatic Relay Ass'y	BU9005X00F2	R3580XRS022
83L Pneumatic Relay Ass'y	BU9005X00K2	None*
83L Pneumatic Relay Ass'y	R83LX000012	R3580XRS012
83L Pneumatic Relay Ass'y	R3580XRS012	R3580XRS012
83U Pneumatic Relay Ass'y	32B0257X0A2	32B0257X0C2
83U Pneumatic Relay Ass'y	32B0257X0B2	32B0257X0D2
83U Pneumatic Relay Ass'y	32B0257X0E2	32B0257X0C2
83U Pneumatic Relay Ass'y	32B0257X0F2	32B0257X0D2
83U Pneumatic Relay Ass'y	BV5997X0012	None*
83U Pneumatic Relay Ass'y	BV5997X00A2	32B0257X0C2
83U Pneumatic Relay Ass'y	BV5997X00B2	32B0257X0D2
83H Pneumatic Relay Ass'y	CV4084X00A2	None*
83H Pneumatic Relay Ass'y	CV4084X00B2	None*
83H Pneumatic Relay Ass'y	CV4084X00C2	None*
83H Pneumatic Relay Ass'y	32B0315X0A2	None*
83H Pneumatic Relay Ass'y	R83HX000012	R3590XRS012

\* Part numbers noted as "None" are associated with obsolete product lines and are no longer orderable.